Stated Meeting, June 18.

Present, fourteen members.

Dr. CHAPMAN, President, in the Chair.

A letter was received and read:—

From the Proprietors of the Bowditch Library, dated Boston, 4th June, 1847, acknowledging the receipt of Vol. IV. Nos. 36 and 37, of the Proceedings of the American Philosophical Society.

The following donations were announced:—

FOR THE LIBRARY.

Journal of the Senate of the United States of America, being the Second Session of the Twenty-eighth Congress, begun and held at the City of Washington, December 2, 1844. Washington, 1844. 8vo.

Journal of the House of Representatives of the United States, being the Second Session of the Twenty-eighth Congress. Washington, 1844–45. 8vo.

Public Documents, printed by order of the Senate of the United States, First Session of the Twenty-eighth Congress. Vol. VII. Washington, 1844. 8vo.

Public Documents, printed by order of the Senate of the United States, Second Session of the Twenty-eighth Congress. Embraced in Eleven Volumes. Vols. I. II. III. VII. VIII. IX. X. in two parts, and XI. Washington, 1845. 8vo.

Executive Documents, Second Session, Twenty-eighth Congress. Vols. I. II. III. IV. in two parts. Washington, 1844–45. 8vo.

Reports of Committees, Second Session, Twenty-eighth Congress. Washington, 1844–45. 8vo. Eighteen Volumes in all.—*From the Department of State.*

The Fourteenth Annual Report of the Royal Cornwall Polytechnic Society. Falmouth, 1846. 8vo.—*From the Society.*

O Auxiliador da Industria Nacional. Periodico da Sociedade Auxiliadora da Industria Nacional, estabelecida no Rio de Janeiro. Vol. I. Nova Serie. Nos. 5, 8, 9, 10. 8vo.—*From the Society.*

Proceedings of the Academy of Natural Sciences of Philadelphia.

Vol. III. March and April, 1847. No. 8. 8vo.—*From the Academy.*

Summary of the Transactions of the College of Physicians of Philadelphia. From December, 1846, to April, 1847, inclusive. 8vo. *From the College.*

The African Repository and Colonial Journal. Vol. XXIII. June, 1847. No. 6. 8vo.—*From the American Colonization Society.*

Journal of the Franklin Institute of the State of Pennsylvania. Third Series. Vol. XIII. June, 1847. No. 6. Whole No. 258. Vol. XLIII. 8vo.—*From Dr. R. M. Patterson.*

The Medical News and Library. Vol. V. June, 1847. No. 54. 8vo.—*From Messrs Lea & Blanchard.*

New Plan of a Perpetual Civil Calendar, Julian and Gregorian, showing by Inspection the correspondence between Monthly dates and the Day of the Week, in any Year before or after the Christian Era. By William M'Ilvaine. Burlington, N. J. 1846. Three Copies.—*From the Author.*

ADDITIONS TO THE LIBRARY BY PURCHASE.

Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences. Tome XXIV. Nos. 1 to 12. 4 Janvier au 22 Mars, 1847. 4to.

Annales de Chimie et de Physique. Troisième Série. Tomes XIV. et XV., 1845. Tome XIX., Janvier, Février, Mars, 1847. 8vo.

Histoire Naturelle des Poissons; par M. le Baron Cuvier, et par M. A. Valenciennes. Tomes Dix-huitième et Dix-neuvième. Paris, 1846. 4to. Planches Nos. 487—553, inclusivement.

DONATION TO THE CABINET.

Two Ancient Vases from South America; one from the Island of Puira, and the other from the Island of Payta.—*From the Family of the late J. Milnor Williams, through Mr. Joseph Saxton.*

Dr. Dunglison referred to a letter received by him from Prof. Müller, of Berlin, dated Berlin, 20th April, 1847, in which Prof. Müller stated that he had been much occupied with the bones of the Basilosaurus or Zeuglodon, collected by Mr. Koch in Alabama, on which he designed to publish an extensive treatise. There can be no doubt, he says, that it was a mammiferous animal. Remains of the animal have been

found in the lower tertiary formation of Europe, namely, in the Island of Malta, in Southern France, and in Germany on the Danube. In Malta, the teeth only were found, as long ago as 1670. In Southern France, and Austria on the Danube, parts of the skull were discovered.

Dr. Patterson announced to the Society the confirmation, by the late arrivals from Europe, of Mr. Walker's discovery of the identity of the Lalande star and Neptune, and read to the Society the following letter on this subject from Mr. Walker.

Washington, D. C., June 1st, 1847.

My dear Sir,—I send you my Elements VII. of Neptune, derived from Elements V., by clearing them of the effect of the present disturbing action of the three great planets (that of the others is almost insensible).

The pure elliptic formula—

$$(1.) \quad \ldots \quad \frac{1}{a} = \frac{2}{r} - \frac{r\,r\,n\,n}{k\,k}$$

becomes, in the disturbed orbit,

$$(2.) \quad \ldots \quad \frac{1}{a'} = \frac{2}{r'} - \frac{r'\,r'\,n'\,n'}{k'\,k'}$$

In which the accented quantities are the disturbed values of the elliptic quantities above: k is the Gaussian constant, and k' is a similar quantity for the actual position of all the masses of the system, December 7th, 1847. No. (2) gives, from the values furnished by least squares,—

$$k' = 3545.489 \quad , \quad k = 3548''.188$$
$$a' = 30.17775$$
$$\mu' = k'\,a'^{-\frac{3}{2}} = 21''.41144$$
$$T' = 165^{y}.7175$$

These values of a', μ', and T', substituted for a, μ, and T, in Elements V., give Elements VII., which are a first approximation towards the pure elliptic elements of Neptune. The following comparison of Lalande's observations, as reduced by Mauvais, *Comptes Rendus*, 1847, *No.* 16, will serve as a test of the ephemeris from these Elements. The places are referred to the mean equinox of Jan. 1st, 1847, corrected for parallax, but not for aberration.

Comparison of Lalande's Observations with Ephemeris VII.

Date, 1795. Mean Time, Paris.	Lalande's Two Observations.		Correction of Ephemeris VII.	
	R. A.	Dec.	R. A.	Dec.
h. *m.* *s.*				
May 8th, 11 10 57	213° 41′ 3″.89	−11° 35′ 4″.96	+141″.1	+39″.5
May 10th, 11 2 55	213 38 5.16	−11 34 5.64	+147.8	+36.4
Observed two days' motion	− 178″.73	+ 59.″32		
Computed do. Elem'ts VII.	− 185″.42	+ 62.″38		
Discrepancy	6.″69	3.″06		

The small residual discrepancy of 3′ is to be ascribed to the neglect of the perturbations for the interval of 52 years, and to the small errors of Elements VII.

Yours truly and respectfully,

SEARS C. WALKER.

To Dr. R. M. Patterson,
Vice President Am. Phil. Soc.